

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.: MO-0108723

Owner: City of Moberly
Address: 101 West Reed Street, Moberly, MO 65270

Continuing Authority: Same as above
Address: Same as above

Facility Name: Moberly Sanitary Landfill
Address: Route 2, Box 372, Huntsville, MO 65259

Legal Description: See page 2

Receiving Stream: See page 2

First Classified Stream and ID: See page 2

USGS Basin & Sub-watershed No.: See page 2

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

See page 2

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

May 28, 2004
Effective Date

May 27, 2009
Expiration Date
MO 780-0041 (10-93)



Stephen M. Cahfood, Director, Department of Natural Resources
Executive Secretary, Clean Water Commission

Jim Hull, Director of Staff, Clean Water Commission

FACILITY DESCRIPTION (continued)

Outfall #001 - Inactive Landfill - SIC #4953

Stormwater runoff.

Design flow is 0.38 MGD.

Actual flow is dependent on rainfall.

Legal Description: NW ¼, Sec. 17, T54N, R14W, Randolph County

Receiving Stream: Unnamed Tributary to Sinking Creek (U)

First Classified Stream and ID: East Fork Chariton River (P) (00682)

USGS Basin & Sub-watershed No.: (10280203-40002)

Outfall #002 - Inactive Landfill - SIC #4953

Stormwater runoff.

Design flow is 1.67 MGD.

Actual flow is dependent on rainfall.

Legal Description: SW ¼, Sec. 17, T54N, R14W, Randolph County

Receiving Stream: Unnamed Tributary to Sugar Creek (U)

First Classified Stream and ID: Sugar Creek (P) (00686)

USGS Basin & Sub-watershed No.: (10280203-40002)

Outfall #003 - Inactive Landfill - SIC #4953

Stormwater runoff.

Design flow is 1.99 MGD.

Actual flow is dependent on rainfall.

Legal Description: SE ¼, Sec. 17, T54N, R14W, Randolph County

Receiving Stream: Unnamed Tributary to Sugar Creek (U)

First Classified Stream and ID: Sugar Creek (P) (00686)

USGS Basin & Sub-watershed No.: (10280203-40002)

Outfall #004 - Active Landfill - SIC #4953

Stormwater runoff.

Design flow is 1.00 MGD.

Actual flow is dependent on rainfall.

Legal Description: NW ¼, Sec. 17, T54N, R14W, Randolph County

Receiving Stream: Unnamed Tributary to Sinking Creek (U)

First Classified Stream and ID: East Fork Chariton River (P) (00682)

USGS Basin & Sub-watershed No.: (10280203-40002)

Outfall #005 - Active Landfill - SIC #4953

Stormwater runoff.

Design flow is 1.33 MGD.

Actual flow is dependent on rainfall.

Legal Description: NW ¼, Sec. 17, T54N, R14W, Randolph County

Receiving Stream: Unnamed Tributary to Sinking Creek (U)

First Classified Stream and ID: East Fork Chariton River (P) (00682)

USGS Basin & Sub-watershed No.: (10280203-40002)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					PAGE NUMBER 3 of 9	
					PERMIT NUMBER MO-0108723	
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfalls #001 - #005</u>						
Flow	MGD	*		*	once/quarter**	instantaneous estimate
Rainfall	inches	*		*	daily measurement	***
BETX	mg/L	0.75		0.75	once/quarter**	grab
Biochemical Oxygen Demand ₅	mg/L	60		45	once/quarter**	grab
Chemical Oxygen Demand	mg/L	120		90	once/quarter**	grab
Total Suspended Solids	mg/L	80		60	once/quarter**	grab
Settleable Solids	mL/L/hr	1.5		1.0	once/quarter**	grab
Total Dissolved Solids	mg/L	*		*	once/quarter**	grab
Conductivity (Specific Conductance)	umhos/cm	*		*	once/quarter**	grab
Chloride Plus Sulfates	mg/L	*		*	once/quarter**	grab
Iron, Total Recoverable	mg/L	*		*	once/quarter**	grab
pH - Units	SU	****		****	once/quarter**	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE <u>October 28, 2004</u> .						
Calcium	mg/L	*		*	once/year*****	grab
Fluoride	mg/L	*		*	once/year*****	grab
Total Hardness	mg/L	*		*	once/year*****	grab
Barium, Total Recoverable	mg/L	*		*	once/year*****	grab
Boron, Total Recoverable	mg/L	*		*	once/year*****	grab
Cadmium, Total Recoverable	mg/L	*		*	once/year*****	grab
Chromium, Total Recoverable	mg/L	*		*	once/year*****	grab
Cobalt, Total Recoverable	mg/L	*		*	once/year*****	grab
Copper, Total Recoverable	mg/L	*		*	once/year*****	grab
Sodium, Total Recoverable	mg/L	*		*	once/year*****	grab
Ammonia as N	mg/L	*****		*****	once/year*****	grab
Nitrate and Nitrite as N	mg/L	*		*	once/year*****	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <u>October 28, 2004</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
B. STANDARD CONDITIONS						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Part I</u> STANDARD CONDITIONS DATED <u>October 1, 1980</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

					PAGE NUMBER 4 of 9	
A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					PERMIT NUMBER MO-0108723	
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfalls #001-#005</u>						
Phosphorus, Total Recoverable	mg/L	*		*	once/year*****	grab
Mercury, Total Recoverable	mg/L	*		*	once/year*****	grab
Arsenic, Total Recoverable	mg/L	*		*	once/year*****	grab
Lead, Total Recoverable	mg/L	*		*	once/year*****	grab
Selenium, Total Recoverable	mg/L	*		*	once/year*****	grab
Silver, Total Recoverable	mg/L	*		*	once/year*****	grab
Manganese, Total Recoverable	mg/L	*		*	once/year*****	grab
Magnesium, Total Recoverable	mg/L	*		*	once/year*****	grab
Zinc, Total Recoverable	mg/L	*		*	once/year*****	grab
Antimony, Total Recoverable	mg/L	*		*	once/year*****	grab
Beryllium, Total Recoverable	mg/L	*		*	once/year*****	grab
Nickel, Total Recoverable	mg/L	*		*	once/year*****	grab
Sulfate	mg/L	*		*	once/year*****	grab
Thallium, Total Recoverable	mg/L	*		*	once/year*****	grab
Total Organic Carbon	mg/L	*		*	once/year*****	grab
Vanadium, Total Recoverable	mg/L	*		*	once/year*****	grab
Oil and Grease	mg/L	15		10	once/year*****	grab
<u>Outfalls #004 & #005</u> - 50% mix from each, the Active area Outfalls.						
Whole Effluent Toxicity (WET) Test	% Survival	See Special Conditions			once/year in October	24 hr. composite
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <u>October 28, 2004</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
B. STANDARD CONDITIONS						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Part I</u> STANDARD CONDITIONS DATED <u>October 1, 1980</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

MO 780-0010 (8/91)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- * Monitoring requirement only.
- ** Once per quarter in the months of March, May, September, and November.
- *** Grab samples shall be collected during a rainfall event, when there is runoff from the landfill site. The sample shall be collected no later than one hour after runoff begins.
- **** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0-9.0 pH units.
- ***** The discharge shall not exceed the appropriate values in Table B 10 CSR 20, 7.031.
- ***** Samples to be taken in September.

C. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
 - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
 - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - (2) controls any pollutant not limited in the permit.
 - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
 - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

2. This permit does not allow the discharge of leachate. All leachate shall be handled in accordance with the Solid Waste Disposal Area Operating Permit, Report of Approval of Plans and Specifications (with conditions).
3. Changes in Discharges of Toxic Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:

- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
 - (1) One hundred micrograms per liter (100 µg/L);
 - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
 - (4) The level established in Part A of the permit by the Director.
 - (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.
4. All activities performed to control erosion on the landfill site (seeding, mulching, terracing, etc.) shall be described and submitted along with the second quarter and fourth quarter Discharge Monitoring Reports. If no erosion controls are undertaken, indicate so on the reports.
 5. All design and operating specifications and all Solid Waste Management Program approval conditions pertaining to water quality are hereby made a part of this permit and shall apply throughout the life of this permit without regard to other conditions, permits, occurrences, etc.
 6. All discharges shall comply with the Missouri Water Quality Standards, 10 CSR 20-7.031, Section (3)(C), which states "Waters shall be free from substance in sufficient amounts to cause unsightly color or turbidity...", and Section (4)(G), which states "Water contaminants shall not cause or contribute to turbidity or color that will cause substantial visible contact with the natural appearance of the stream...".

C. SPECIAL CONDITIONS (continued)

7. All outfalls must be clearly marked in the field.
8. Report as no-discharge when a discharge does not occur during the report period.
9. General Criteria. The following water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
 - (a) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
 - (b) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
 - (c) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
 - (d) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
 - (e) There shall be no significant human health hazard from incidental contact with the water;
 - (f) There shall be no acute toxicity to livestock or wildlife watering;
 - (g) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
 - (h) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.
10. Whole Effluent Toxicity (WET) tests shall be conducted as follows:

SUMMARY OF WET TESTING FOR THIS PERMIT				
OUTFALL	A.E.C. %	FREQUENCY	SAMPLE TYPE	MONTH
Mix of Outfalls #004 & #005	100%	Annually	24 hr. composite	October

(a) Test Schedule and Follow-Up Requirements

- (1) Perform a single-dilution test in the months and at the frequency specified above. If the effluent passes the test, do not repeat the test until the next test period.
Submit test results along with complete copies of the test reports as received from the laboratory within 30 calendar days of availability to the WPP, Water Quality Monitoring and Assessment Section, P.O. Box 176, Jefferson City, MO 65102.
- (2) If the effluent fails the test, a multiple dilution test shall be performed within 30 calendar days, and biweekly thereafter, until one of the following conditions are met:
 - (a) THREE CONSECUTIVE MULTIPLE-DILUTION TESTS PASS. No further tests need to be performed until next regularly scheduled test period.
 - (b) A TOTAL OF THREE MULTIPLE-DILUTION TESTS FAIL.

C. SPECIAL CONDITIONS (continued)

10. Whole Effluent Toxicity (WET) (continued)

(a) Test Schedule and Follow-Up Requirements (continued)

- (3) The permittee shall submit a summary of all test results for the test series along with complete copies of the test reports as received from the laboratory to the WPP, Water Quality Monitoring and Assessment Section, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the third failed test.
- (4) Additionally, the following shall apply upon failure of the third test: A toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) is automatically triggered. The permittee shall contact WPP, Water Quality Monitoring and Assessment Section to ascertain as to whether a TIE or TRE is appropriate. The permittee shall submit a plan for conducting a TIE or TRE to the Planning Section of the WPP within 60 calendar days of the date of DNR's direction to perform either a TIE or TRE. This plan must be approved by DNR before the TIE or TRE is begun. A schedule for completing the TIE or TRE shall be established in the plan approval.
- (5) Upon DNR's approval, the TIE/TRE schedule may be modified if toxicity is intermittent during the TIE/TRE investigations. A revised WET test schedule may be established by DNR for this period.
- (6) If a previously completed TIE has clearly identified the cause of toxicity, additional TIEs will not be required as long as effluent characteristics remain essentially unchanged and the permittee is proceeding according to a DNR approved schedule to complete a TRE and reduce toxicity. Regularly scheduled WET testing as required in the permit, without the follow-up requirements, will be required during this period.
- (7) All failing test results shall be reported to WPP, Water Quality Monitoring and Assessment Section, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the availability of the results.
- (8) When WET test sampling is required to run over one DMR period, each DMR report shall contain information generated during the reporting period.
- (9) Submit a concise summary of all test results with the annual report.

(b) PASS/FAIL procedure and effluent limitations:

- (1) To pass a single-dilution test, mortality observed in the AEC test concentration shall not be significantly different (at the 95% confidence level; $p = 0.05$) than that observed in the upstream receiving-water control sample. The appropriate statistical tests of significance will be those outlined in the most current USEPA acute toxicity manual or those specified by the MDNR.
- (2) To pass a multiple-dilution test:
 - (a) the computed percent effluent at the edge of the zone of initial dilution, Acceptable Effluent Concentration (AEC), must be less than three-tenths (0.3) of the LC_{50} concentration for the most sensitive of the test organisms; or,
 - (b) all dilutions equal to or greater than the AEC must be nontoxic. Failure of one multiple-dilution test is an effluent limit violation.

C. SPECIAL CONDITIONS (continued)

10. Whole Effluent Toxicity (WET) (continued)

(c) Test Conditions

- (1) Test Type: Acute Static non-renewal
- (2) Test species: Ceriodaphnia dubia and Pimephales promelas (fathead minnow). Organisms used in WET testing shall come from cultures reared for the purpose of conducting toxicity tests and cultured in a manner consistent with the most current USEPA guidelines. All test animals shall be cultured as described in the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms.
- (3) Test period: 48 hours at the "Acceptable Effluent Concentration" (AEC) specified above.
- (4) When dilutions are required, upstream receiving stream water shall be used as dilution water. If upstream water is unavailable or if mortality in the upstream water exceeds 10%, "reconstituted" water will be used as dilution water. Procedures for generating reconstituted water will be supplied by the MDNR upon request.
- (5) Single-dilution tests will be run with:
 - (a) Effluent at the AEC concentration;
 - (b) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
 - (c) reconstituted water.
- (6) Multiple-dilution tests will be run with:
 - (a) 100%, 50%, 25%, 12.5%, and 6.25% effluent, unless the AEC is less than 25% effluent, in which case dilutions will be 4 times the AEC, two times the AEC, AEC, 1/2 AEC and 1/4 AEC;
 - (b) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
 - (c) reconstituted water.
- (7) If reconstituted-water control mortality for a test species exceeds 10%, the entire test will be rerun.

SUMMARY OF TEST METHODOLOGY FOR WHOLE-EFFLUENT TOXICITY TESTS

Whole-effluent-toxicity test required in NPDES permits shall use the following test conditions when performing single or multiple dilution methods. Any future changes in methodology will be supplied to the permittee by the Missouri Department of Natural Resources (MDNR). Unless more stringent methods are specified by the DNR, the procedures shall be consistent with the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms,

Test conditions for Ceriodaphnia dubia:

Test duration:	48 h
Temperature:	25 ± 1°C Temperatures shall not deviate by more than 3°C during the test.
Light Quality:	Ambient laboratory illumination
Photoperiod:	16 h light, 8 h dark
Size of test vessel:	30 mL (minimum)
Volume of test solution:	15 mL (minimum)
Age of test organisms:	<24 h old
No. of animals/test vessel:	5
No. of replicates/concentration:	4
No. of organisms/concentration:	20 (minimum)
Feeding regime:	None (feed prior to test)
Aeration:	None
Dilution water:	Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.
Endpoint:	Pass/Fail (Statistically significant Mortality when compared to upstream receiving water control or synthetic control if upstream water was not available at $p \leq 0.05$)
Test acceptability criterion:	90% or greater survival in controls

Test conditions for (Pimephales promelas):

Test duration:	48 h
Temperature:	25 ± 1°C Temperatures shall not deviate by more than 3°C during the test.
Light Quality:	Ambient laboratory illumination
Photoperiod:	16 h light/ 8 h dark
Size of test vessel:	250 mL (minimum)
Volume of test solution:	200 mL (minimum)
Age of test organisms:	1-14 days (all same age)
No. of animals/test vessel:	10
No. of replicates/concentration:	4 (minimum) single dilution method 2 (minimum) multiple dilution method
No. of organisms/concentration:	40 (minimum) single dilution method 20 (minimum) multiple dilution method
Feeding regime:	None (feed prior to test)
Aeration:	None, unless DO concentration falls below 4.0 mg/L; rate should not exceed 100 bubbles/min.
Dilution water:	Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.
Endpoint:	Pass/Fail (Statistically significant Mortality when compared to upstream receiving water control or synthetic control if upstream water was not available at $p \leq 0.05$)
Test Acceptability criterion:	90% or greater survival in controls

Date of Fact Sheet: March 24, 2004

Date of Public Notice: April 9, 2004

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT
FACT SHEET

This Fact Sheet explains the applicable regulations, rationale for development of this permit and the public participation process.

NPDES PERMIT NUMBER: MO-0108723

FACILITY NAME: Moberly Sanitary Landfill

OWNER NAME: City of Moberly

LOCATION: Sec. 17, T54N, R14W, Randolph County

RECEIVING STREAM: Unnamed Tributary to Sinking Creek & Unnamed Tributary to Sugar Creek

FACILITY CONTACT PERSON: Thomas E. Sanders

TELEPHONE: (660) 269-8705

FACILITY DESCRIPTION AND RATIONALE

This is for the renewal of a state operating permit for a landfill. For discussion of effluent limits, see the Water Quality Review Sheet.

This permit will be issued for a period of five years.

WATER QUALITY REVIEW SHEET

Determination of Effluent Limits

FACILITY INFORMATION

Facility Name: Moberly Sanitary Landfill NPDES #: MO-0108723

Facility Type/Description: Landfill

8-Digit Huc: 10280203 County: Randolph

Legal Description: Sec. 17, T54N, R14W

Water Quality History And Special Problems: Received variance for sulfate in 1999.

OUTFALL CHARACTERISTICS

Outfall	Design Flow (MGD)	Treatment Type	Receiving Waterbody	Main Contaminant Of Concern
001	0.38	Sediment pond	Unnamed Tributary to Sinking Creek	sulfate, BOD, COD, TSS & pH
002	1.67	Sediment pond	Unnamed Tributary to Sugar Creek	sulfate, BOD, COD, TSS & pH
003	1.99	Sediment pond	Unnamed Tributary to Sugar Creek	sulfate, BOD, COD, TSS & pH
004	1.00	Sediment pond	Unnamed Tributary to Sinking Creek	sulfate, BOD, COD, TSS & pH
005	1.33	Sediment pond	Unnamed Tributary to Sinking Creek	sulfate, BOD, COD, TSS & pH

RECEIVING WATERBODY INFORMATION

Waterbody	Class	7q10(Cfs)	*Designated Uses	Other Characteristics
Unnamed Tributary to Sinking Creek	U		None	
Unnamed Tributary to Sugar Creek	P		LWW, AQL	on 303 (d) list for pH

*Cool water fishery (clf), cold water fishery (cdf), irrigation (irr), industrial (ind), boating & canoeing (btg), drinking water supply (dws), whole body contact recreation (wbc), protection of warmwater aquatic life and human health (aql), livestock & wildlife watering (lww)

PERMIT LIMITS AND INFORMATION

TMDL Watershed: Yes ☐ No ☒ Disinfection Waiver: Yes ☐ No ☐ NA ☒
W.L.A. Study Conducted: Yes ☐ No ☒ 303d Waterbody: Yes ☒ No ☐ NA ☐
Disinfection Required: Yes ☐ No ☒ Violations: Yes ☐ No ☒

Outfalls #001 - #005 (All metals expressed as total recoverable, unless noted. All mg/L unless noted.)

Wet Test: Yes ☒ No ☐ Frequency: Annually A.E.C. 100% Limit: No significant Mortality

PARAMETER	Daily Maximum	Weekly Average	Monthly Average
Flow (MGD)	*		*
Rainfall (inches)	*		*
BETX (mg/L)	0.75		0.75
Biochemical Oxygen Demand (mg/L)	60		45
Chemical Oxygen Demand (mg/L)	120		90
Total Suspended Solids (mg/L)	80		60
Settleable Solids (ml/L/hr)	1.5		1.0
Total Dissolved Solids (mg/L)	*		*
Conductivity (umhos/cm)	*		*
Chloride plus Sulfates (mg/L)	*		*

Iron, Total Recoverable (mg/L)	*		*
pH - Units (SU)	6-9		6-9
Calcium (mg/L)	*		*
Fluoride (mg/L)	*		*
Total Hardness (mg/L)	*		*
Barium, Total Recoverable (mg/L)	*		*
Boron, Total Recoverable (mg/L)	*		*
Cadmium, Total Recoverable (mg/L)	*		*
Chromium, Total Recoverable (mg/L)	*		*
Cobalt, Total Recoverable (mg/L)	*		*
Copper, Total Recoverable (mg/L)	*		*
Sodium, Total Recoverable (mg/L)	*		*
Ammonia as N (mg/L)	*		*
Nitrite & Nitrate as N (mg/L)	*		*
Phosphorus, Total Recoverable (mg/L)	*		*
Mercury, Total Recoverable (mg/L)	*		*
Arsenic, Total Recoverable (mg/L)	*		*
Lead, Total Recoverable (mg/L)	*		*
Selenium, Total Recoverable (mg/L)	*		*
Silver, Total Recoverable (mg/L)	*		*
Manganese, Total Recoverable (mg/L)	*		*
Magnesium, Total Recoverable (mg/L)	*		*
Zinc, Total Recoverable (mg/L)	*		*
Antimony, Total Recoverable (mg/L)	*		*
Beryllium, Total Recoverable (mg/L)	*		*
Nickel, Total Recoverable (mg/L)	*		*
Sulfate (mg/L)	*		*
Thallium, Total Recoverable (mg/L)	*		*
Total Organic Carbon (mg/L)	*		*
Vanadium, Total Recoverable (mg/L)	*		*
Oil & Grease (mg/L)	15		10

Derivation and Discussion of Limits

In order to protect the water quality of the receiving streams and the waters they flow into, effluent limitations and monitoring requirements are established in accordance with federal and state laws. The receiving stream for Outfalls #001, #002, #004 & #005 is an Unnamed Tributary to Sinking Creek and is unclassified at the point of discharge and does not support aquatic life on a permanent basis. The receiving stream for Outfall #003 is an Unnamed Tributary to Sugar Creek which is class P, which does support aquatic life.

Limits were established by using two sources. The Water Quality Standards (10 CSR 20-7.031) and best professional judgement of the permit writer. The most restrictive limits from the sources above was used to determine final limits.

Section 122.44(d)(1) of Title 40 of the Code of Federal Regulations requires EPA and the delegated states to evaluate each NPDES permit for the potential to exceed a state numerical or narrative water quality standards, including those for toxics, and to establish effluent limits for those facilities with the "reasonable potential" to exceed those standards. The regulations require chemical specific limits, based on the state numerical water quality standards or other criteria developed by EPA, and whole effluent toxicity effluent limits.

When determining effluent limits, Water Quality Standards (10 CSR 20-7.031 (3)(I)) apply "acute" limits for an unclassified receiving stream. 10 CSR 20-7.031 (3)(I) also states that requirements of section (4)(B), "Toxic Substances", shall be met. Section (4) (B) states that water contaminants shall not cause the criteria in Tables A and B of the Water Quality Standards to be exceeded. The regulations do not specify whether or not to apply the chronic criteria for unclassified streams, which are not designated with beneficial uses. Suspended Solids monitoring will provide data on the total amount of sediment discarded from this facility. Oil and Grease limits were established using best professional judgement of the permit writer, since there were no application standards listed for this industry in the Federal Regulations that could be used for guidance. Petroleum based limits for oil and grease were established to comply with 10 CSR 20-7.031 (3)(B) and should be consistent statewide with other industries that have petroleum based limits.

Whole Effluent Toxicity (WET) test is being required yearly for Outfalls #004 & #005. Permittee may use 50% effluent from Outfalls #004 & #005 to satisfy this requirement, as long as 100% strength is used.

Where violations of water quality standards are identified or projected, EPA and the States will develop water quality based effluent limits for inclusion in any issued permit. Where there is a significant likelihood of toxic effects to biota in the receiving stream, EPA and the States may impose permit limits on effluent toxicity and may require an NPDES permittee to conduct a Toxicity Reduction Evaluation (TRE). Where toxic effects are present, but there is a significant likelihood that compliance with technology based requirements will sufficiently mitigate the effects, EPA and the States may require chemical and toxicity testing after installation of treatment and may reopen the permit to incorporate additional limitations if needed to meet water quality standards.

The standard conditions attached to the draft permit are applied to all NPDES permittees. They reflect requirements of the federal (40 CFR Part 122) and state (10 CSR 20-Chapter 6) regulations with respect to permittee duties, responsibilities, and liabilities.

This permit will be issued for a period of five years.

Reviewer: Tim Stallman

Date: 3-24-04

Unit Chief: Richard Laux

Monitoring and effluent limits contained within this document have been developed in accordance with EPA guidelines using the best available data and are believed to be consistent with Missouri's Water Quality Standards and Effluent Regulations. If additional water quality data or anecdotal information are available that may affect the recommended monitoring and effluent limits, please forward these data and information to the author.